

LIST OF CURRENT CLAIMS

Claims 1-23 (Canceled)

24. (Currently Amended) A method for testing a paper of value (1), ~~in particular a bank note~~, comprising the steps of:

a) irradiating a paper of value [(1)] located in a measuring plane [(2)] in first and second areas, the second area being identical, in overlap or adjacent with the first area[.,,];

b) detecting the radiation transmitted through the paper of value in ~~the~~ a bright field in the first area by means of a detector located in the direct radiation range of ~~the~~ a radiation source[.,,];

c) detecting the radiation transmitted through the paper of value in ~~the~~ a dark field in the second area by means of a detector located outside the direct radiation path of the radiation source[.,,];

d) repeating steps a) to c) with respect to other first and second areas of the paper of value[.,,];

e) evaluating the transmitted radiation detected in the first and second areas[.,,]; and

f) comparing the evaluation results ~~of the particular detected from the detection of the radiation in the first and second areas for ascertaining and determining whether paper-of-value~~ paper of value material is present in said first and second areas.

25. (Currently Amended) The method according to claim 24, wherein detection and evaluation of the radiation transmitted in the dark field are ~~effected~~

performed separately in time, and detection and evaluation of the radiation transmitted in the bright field are likewise ~~effected~~ performed separately in time.

26. (Previously Presented) The method according to claim 24, wherein the paper of value is moved translationally over a predetermined distance in the measuring plane for the total duration of detection and evaluation of the radiation transmitted in the dark field and that transmitted in the bright field.

27. (Previously Presented) The method according to claim 26, wherein the distance is about 2 mm.

28. (Previously Presented) The method according to claim 26, wherein the translational motion of the paper of value is continuous.

29. (Currently Amended) The method according to claim 26, wherein the translational motion of the paper of value is ~~effected~~ performed after irradiation of the areas.

30. (Currently Amended) The method according to claim 29, wherein evaluation of the detected radiation is ~~effected~~ performed during the translational motion of the paper of value.

31. (Currently Amended) The method according to claim 24, wherein irradiation of the first area of the paper of value is ~~effected~~ performed with a first

radiation source [(6)] and irradiation of the second area of the paper of value with a second radiation source [(5)].

32. (Currently Amended) The method according to claim 31, wherein detection of the radiation of the first irradiated area transmitted in the dark field and the radiation of the second irradiated area transmitted in the bright field is ~~effected~~ performed with a time shift by means of a common detector [(7)].

33. (Currently Amended) The method according to claim 32, wherein the second radiation source [(5)] is directed onto the detector [(7)] directly and the first radiation source [(6)] is aligned obliquely thereto so as to irradiate the paper of value [(1)] at ~~the~~ an intersection point of the measuring plane [(2)] with ~~the~~ an connecting line between the detector [(7)] and the second radiation source [(5)].

34. (Currently Amended) The method according to claim 31, wherein at least one of the two radiation sources ~~(5, 6)~~ is an IR light source.

35. (Currently Amended) The method according to claim 31, wherein at least one of the two radiation sources ~~(5, 6)~~ emits visible light, and ~~the~~ light reflected by the paper of value ~~(1) being~~ is detected and compared with a reference value.

36. (Currently Amended) The method according to claim 24, ~~within~~ wherein detection of the radiation transmitted in the first area is ~~effected~~ performed with a first detector [(7)] and detection of the radiation transmitted in the second irradiated area with a second detector [(8)].

37. (Currently Amended) The method according to claim 36, wherein irradiation of the first and second areas of the paper of value is ~~effected~~ performed by means of a common radiation source ~~[[6]]~~, the detection of the radiation transmitted through the paper of value in the first area and the radiation transmitted through the paper of value in the second area ~~being-effected~~ performed substantially synchronously.

38. (Currently Amended) The method according to claim 37, wherein the second detector ~~[[8]]~~ is directed onto the radiation source ~~[[6]]~~ directly and the first detector ~~[[7]]~~ is aligned obliquely thereto so as to detect the paper of value at ~~the~~ an intersection point of the measuring plane ~~[[2]]~~ with ~~the~~ a connecting line between the second detector ~~[[8]]~~ and the radiation source ~~[[6]]~~.

39. (Currently Amended) An apparatus for carrying out the method according to claim ~~[[1]]~~ 24, comprising:

a measuring plane ~~[[2),]]~~;

a device for translationally moving a paper of value ~~[[1]]~~ in the measuring

plane~~[[,]]~~;

at least one radiation ~~sources (5, 6)~~ source for irradiating the paper of value located in the measuring plane in first and second areas, the second area being identical, in overlap or adjacent with the first area~~[[, and]]~~;

~~[[a]]~~ at least one detector ~~(7, 8)~~ disposed in the direct radiation range for detecting the radiation transmitted from the radiation source through the paper of value in the first irradiated area of the measuring plane ~~[[2]]~~ in the bright field, ~~characterized by~~ and a detector ~~[[7]]~~ disposed outside the direct radiation output for

detecting the radiation transmitted through the paper of value in the second irradiated area of the measuring plane in the dark field[[,]]; and

an evaluation unit (20) ~~for evaluating~~ connected to said detectors and arranged to evaluate the transmitted radiation detected in the first and second areas and ~~for comparing~~ compare the evaluation results.

40. (Currently Amended) The apparatus according to claim 39, further comprising:

a first radiation source [[[6)]]] for irradiating the first area and a second radiation source [[[5)]]] for irradiating the second area of the measuring plane[[,]]; and

a common detector [[[7)]]] for detecting both the radiation transmitted through the paper of value in the first irradiated area and the radiation from the second radiation source [[[5)]]] transmitted through the paper of value [[in]] in the second irradiated area[[,]]; and

a control device for time-shifted detection of the first and second irradiated areas of the measuring plane [[[2)]]].

41. (Currently Amended) The apparatus according to claim 40, wherein the second radiation source [[[5)]]] is directed onto the common detector [[[7)]]] directly and the first radiation source [[[6)]]] is aligned obliquely thereto so as to irradiate the measuring plane [[[2)]]] at the intersection point of the measuring plane [[[2)]]] with the connecting line between the common detector [[[7)]]] and the second radiation source [[[5)]]].

42. (Currently Amended) The apparatus according to claim 39, wherein one of the two radiation sources ~~(5,6)~~ is an IR light source.

43. (Currently Amended) The apparatus according to claim 42, wherein the other of the two radiation sources ~~(5,6)~~ emits visible light, and the apparatus furthermore has a reflectance sensor ~~[(13)]~~ for detecting light reflected by a paper of value ~~[(1)]~~ located in the measuring plane ~~[(2)]~~, and an evaluation unit ~~[(20)]~~ is provided for evaluating the detected reflected light and comparing the evaluation result with a reference value.

44. (Currently Amended) The apparatus according to claim 39, further comprising:

a common radiation source ~~[(6)]~~ for irradiating the first and second areas of the measuring plane ~~[(2)]~~, and

a first detector ~~[(7)]~~ for detecting the radiation transmitted through the paper of value in the first irradiated area and a second detector ~~[(8)]~~ for detecting the radiation transmitted through the paper of value in the second irradiated area.

45. (Previously Presented) The apparatus according to claim 44, wherein a control device is provided for time-shifted detection or irradiation of the radiation transmitted in the first irradiated area and the radiation transmitted in the second irradiated area.

46. (Currently Amended) The apparatus according to claim 45, wherein the second detector ~~[(8)]~~ is directed onto the radiation source ~~[(6)]~~ directly and the first

Application No.: 09/786,195  
Examiner: Otilia GABOR  
Art Unit: 2878

detector [(7)] is aligned obliquely thereto so as to detect the measuring plane [(2)] at [(the)] an intersection point of the measuring plane [(2)] with [(the)] a connecting line between the second detector [(8)] and the radiation source [(6)].